

The Biological Weapons Convention

An overview

by Jozef Goldblat

Introduction

Since ancient times, the use in war of poison and pathogenic agents has been considered a treacherous practice. It was condemned by international declarations and treaties, notably by the 1907 Hague Convention (IV) respecting the laws and customs of war on land.¹ Efforts to strengthen this prohibition resulted in the conclusion, in 1925, of the Geneva Protocol which banned the use of asphyxiating, poisonous or other gases, usually referred to as chemical weapons, as well as the use of bacteriological methods of warfare. The latter are now understood to include not only bacteria, but also other biological agents, such as viruses or rickettsiae which were unknown at the time the Geneva Protocol was signed. (On 1 January 1997, 132 States were party to this Protocol.) However, the Geneva Protocol did not prohibit the development, production and stockpiling of chemical and biological weapons. Attempts to achieve a complete ban were made in the 1930s in the framework of the League of Nations, but with no success.

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¹ For the text of this Convention, as well as the texts of the 1925 Geneva Protocol and the 1972 Biological Weapons Convention, which are discussed later in this article, see J. Goldblat, *Arms control: A guide to negotiations and agreements*, London, Thousand Oaks, New Delhi, PRIO and SAGE Publications, 1994, pp. 257, 277 and 370, or D. Schindler and J. Toman (ed), *The laws of armed conflicts*, 3rd ed., Martinus Nijhoff Publishers/Henry Dunant Institute, Dordrecht/Geneva, 1988.

Shortly after World War II, the United Nations called for the elimination of all weapons “adaptable to mass destruction”.² Biological and chemical weapons were included in this category of arms along with atomic and radiological weapons.³ Debates on their prohibition took place in the 1950s and 1960s in the context of proposals for general disarmament but, again, the debate remained inconclusive.

As a separate issue, the prohibition of chemical and biological weapons appeared on the agenda of the Eighteen-Nation Committee on Disarmament in 1968. One year later, the United Nations published an influential report on the problems of chemical and biological warfare,⁴ and the question received special attention at the UN General Assembly. The UN report concluded that certain chemical and biological weapons cannot be confined in their effects in space and time and might have grave and irreversible consequences for man and nature. This would apply to both the attacking and the attacked nations. A report by the World Health Organization (WHO) on the health aspects of chemical and biological weapons, issued in 1970, stated that these weapons pose a special threat to civilians, and that the effects of their use are subject to a high degree of uncertainty and unpredictability.⁵

Although simultaneous prohibition of chemical and biological weapons had been considered for many years as both desirable and necessary, towards the end of the 1960s it became clear that such a prohibition was not achievable. In the Eighteen-Nation Committee on Disarmament, where the issue was under discussion, the United Kingdom and a few other Western countries adopted the view that biological weapons should be banned first. The Socialist and many neutral and non-aligned States were opposed to a separate treatment of these weapons, but finally accepted the Western approach. A factor which facilitated this development was the unilateral renunciation of biological weapons by the United States, announced on 25 November 1969, and the decision by the US government to destroy its stockpile of these weapons, irrespective of a possible future international agreement.⁶ On 14 February 1970, the United States also

² United Nations General Assembly Resolution No.1, 24 January 1946.

³ As decided in 1948 by the UN Commission on Conventional Armaments, a subsidiary body of the UN Security Council (United Nations document S/C.3/32/Rev.1).

⁴ United Nations, *Chemical and bacteriological (biological) weapons and the effects of their possible use*, New York, 1969.

⁵ World Health Organization, *Health aspects of the use of chemical and biological weapons*, Geneva, 1970.

⁶ ACDA, *Documents on disarmament 1969*, Washington DC, 1970, pp. 592-93.

formally renounced the production, stockpiling and use of toxins for war purposes. It stated that military programmes for biological agents and toxins would be confined to research and development for defensive purposes.⁷ Subsequent negotiations on a global prohibition of biological weapons led to an international agreement. On 16 December 1971, the text of the convention worked out by the Conference of the Committee on Disarmament (CCD), the successor of the Eighteen-Nation Committee on Disarmament, was commended by the UN General Assembly.⁸

A critical analysis of the BW Convention

On 10 April 1972, the *Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction* was opened for signature. It entered into force on 26 March 1975, after the deposit of the instruments of ratification by 22 signatory governments, including the governments of the Soviet Union, the United Kingdom and the United States, designated as depositaries. By 1 January 1997, the BW Convention had been joined by 140 States, including all the permanent members of the United Nations Security Council.

Scope of the obligations

The BW Convention prohibits the development, production, stockpiling or acquisition by other means, or retention of microbial or other biological agents or toxins, as well as of weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict (Article I).

The Convention has not defined the prohibited items nor the targets to which the prohibitions relate. There exists, however, an authoritative definition of biological agents formulated by the WHO. In its 1970 report, mentioned above, the WHO described biological agents as those that depend for their effects on multiplication within the target organism and are intended for use in war to cause disease or death in man, animals or plants; they may be transmissible or non-transmissible. Toxins are poisonous products of organisms; unlike biological agents, they are inanimate

⁷ Office of the White House Press Secretary, *Press release*, Washington DC, 14 February 1970.

⁸ United Nations document A/2826(XXVI).

and not capable of reproducing themselves. The Convention applies to all natural or artificially created toxins, "whatever their origin or method of production" (Article I). It thus covers toxins produced biologically, as well as those produced by chemical synthesis. Since toxins are chemicals by nature, their inclusion in the BW Convention was a step towards the projected ban on chemical weapons.

Since the signing of the Convention, there have been no disputes among the parties regarding the definition of biological agents or toxins, but the lack of definition of "weapons, equipment or means of delivery" led to a controversy. In ratifying the BW Convention, Switzerland reserved the right to decide for itself which items fall within the definition of weapons, equipment or means of delivery designed to use biological agents or toxins. The United States entered an objection to this reservation, claiming that it would not be appropriate for States to reserve unilaterally the right to take such decisions. In its opinion, the prohibited items are those the design of which indicates that they could have no other use than that specified in the Convention, or that they were intended to be capable of the use specified.⁹ There are, however, few weapons, equipment or means of delivery which would meet such criteria.

Under the BW Convention, the prohibition to develop, produce, stockpile or otherwise acquire or retain biological agents and toxins is not absolute. It applies only to types and to quantities that have no justification for prophylactic, protective or other peaceful purposes. Retention, production or acquisition by other means of certain quantities of biological agents and toxins may thus continue, and there may be testing in laboratories and even in the field. According to the clarification given in the course of the negotiations, the term "prophylactic" encompasses medical activities, such as diagnosis, therapy and immunization, whereas the term "protective" covers the development of protective masks and clothing, air and water filtration systems, detection and warning devices, and decontamination equipment, and must not be interpreted as permitting possession of biological agents and toxins for defence, retaliation or deterrence.¹⁰ The term "other peaceful purposes" has remained unclear. One can assume that it includes scientific experimentation.

There are no provisions in the BW Convention restricting biological research activities. One reason for this omission may be that research

⁹ This interpretation was contained in the note of 18 August 1976 addressed by the US Secretary of State to the Swiss government.

¹⁰ Disarmament Conference document CCD/PV. 542.

aimed at developing agents for civilian purposes is difficult to distinguish from research serving military purposes, whether defensive or offensive. Moreover, in the biological field it is difficult to draw a dividing line between research and development; a country can develop warfare agents in research facilities. Once developed, these agents can be rapidly produced in significant quantities. This circumstance and the express authorization to engage in production (for peaceful purposes) of biological agents and toxins that may be used in warfare create a risk that the provisions of the Convention will be circumvented. The stipulation that any development, production, stockpiling or retention of biological agents or toxins must be justified does not carry sufficient weight. There are no agreed standards or criteria for the quantities of agents or toxins that may be needed by different States for the different purposes recognized by the Convention. The parties are not even obliged to declare the types and amounts of agents or toxins they possess and the use they make of them. The system of material accountancy that is useful in the verification of certain measures of arms control is not practicable in the case of biological or toxin agents. It is thus not evident how much of a given prohibited substance stocked by a given country would constitute a violation of the Convention. The secrecy surrounding biological research activities and, in particular, the maintenance of defensive preparations, which at certain stages may be indistinguishable from offensive preparations, could generate suspicions leading to allegations of breaches.

A separate article of the Convention prohibits the transfer of agents, toxins, weapons, equipment or means of delivery, specified above, to "any recipient whatsoever", that is, to any State or group of States or international organizations, as well as sub-national groups or individuals. The provision of assistance, encouragement or inducement to acquire the banned weapons is likewise forbidden (Article III). These non-proliferation clauses appear hard to reconcile with the commitment of the parties to engage in the "fullest possible" exchange of biological agents and toxins, and of equipment for the processing, use or production of such agents and toxins for peaceful ends (Article X). For all such materials and technologies, as well as expertise, are dual-use and as such widespread. To reduce the risk of misuse, an informal forum of industrialized countries, known as the Australia Group (after the country which took the initiative to convene it), decided to apply certain restrictions on transfers of items relevant to the BW Convention.¹¹

¹¹ The Australia Group was founded in 1985, in the aftermath of chemical weapons' use in the Iran-Iraq war, to constrain the trade in the technologies and materials of chemical warfare. In 1990, its purview was expanded to include biological weapons.

Many nations consider the control arrangements adopted by the Group as complementary to the BW Convention, because an export may be precluded if there is particular concern about its potential diversion for weapon purposes. Other nations consider these arrangements to be discriminatory, because they chiefly affect the developing world. The latter would like to see the Australia Group disbanded and have all export restrictions that might be agreed among all parties incorporated in a legally binding verification document.

Parties to the BW Convention have undertaken to cooperate in the further development and application of scientific discoveries in the field of biology for the prevention of diseases or for other peaceful purposes (Article X). However, since the Convention is essentially a disarmament treaty, it can hardly serve as an effective instrument for such cooperation. The participants in the latest BW Convention Review Conference acknowledged the existence of an increasing gap between the developed and developing countries in the field of biotechnology, genetic engineering, microbiology and other related areas.¹²

The most remarkable feature of the BW Convention is the disarmament obligation of the parties: to destroy or divert to peaceful purposes all agents, toxins, weapons, equipment and means of delivery (Article II). The BW Convention was the first treaty providing for the abolition of an entire category of arms. The envisaged destruction or diversion was to take place not later than nine months after entry into force of the Convention, it being understood that for States acceding to the Convention after its entry into force the destruction or diversion was to be completed upon accession. All the necessary safety precautions are to be observed during the destruction operations to protect "populations" (that is, not only the population of the country carrying out these operations) as well as the environment in general. The United States was the only State to announce that its stockpile of biological and toxin agents and all associated munitions had been destroyed, except for small quantities for laboratory defensive research purposes. It also made it known that former biological warfare facilities had been converted to medical research centres.¹³ No other State has made such an announcement. The United Kingdom said that it had no stocks of biological weapons.¹⁴ The Soviet Union stated that

¹² Fourth Review Conference of the Parties to the BW Convention, document BWC/CONF.IV/9.

¹³ Disarmament Conference documents CCD/PV. 585 and 655.

¹⁴ Disarmament Conference document CCD/PV. 659.

it did not possess any biological agents or toxins, weapons, equipment or means of delivery, as prohibited by the Convention,¹⁵ but this statement turned out to be untrue (see below).

Relationship with the 1925 Geneva Protocol

The BW Convention does not expressly prohibit the use of biological or toxin weapons. It only states that the obligations assumed under the 1925 Geneva Protocol, which prohibits such use, remain valid (Article VIII). However, adherents to the BW Convention are not necessarily parties to the Geneva Protocol. Moreover, the Convention stipulates that nothing in its provisions shall be interpreted as in any way limiting or detracting from the obligations assumed by States under the Geneva Protocol. This implies that the reservations to the Protocol, which form part of the obligations contracted by the parties, continue to exist. Insofar as the reservations concern the right to employ the banned weapons against non-parties or in retaliation against a party violating the Protocol, they are incompatible with the obligation of the parties to the Convention never “in any circumstances” to acquire biological weapons (Article I). They also contradict the parties’ expressed determination to exclude “completely” the possibility of biological agents and toxins being used as weapons (ninth preambular paragraph). It is for this reason that, in acceding to the BW Convention in 1984, China declared that the absence of an explicit prohibition on the use of biological weapons was a defect which should be corrected “at an appropriate time”. Indeed, over the years, a number of States have withdrawn their reservations to the Geneva Protocol, either with regard either to biological weapons alone, or to both biological and chemical weapons.¹⁶ They have thereby recognized that since the retention and production of biological weapons are banned, so must, by implication, be their use, because use presupposes possession.

Nonetheless, in 1996, Iran proposed that the Convention (its title and Article I) be amended so as to make the ban on use explicit rather than implicit.¹⁷ An amendment submitted by a party enters into force for each

¹⁵ Disarmament Conference document CCD/PV. 666.

¹⁶ Ireland (1972), Barbados (1976), Australia (1986), New Zealand (1989), Czechoslovakia (1990), Mongolia (1990), Bulgaria (1991), Canada (1991), Chile (1991), Romania (1991), United Kingdom (1991), Spain (1992), Russia (1992), South Africa (1996), France (1996), Belgium (1997).

¹⁷ Fourth Review Conference of the Parties to the BW Convention, document BWC/CONF.IV/COW/WP.2.

State accepting it upon its acceptance by a majority of the parties (Article XI). However, the Iranian proposal is opposed by many States which fear the risks of having other provisions of the Convention opened up for renegotiation as well. Some are apprehensive that States not accepting the Iranian-proposed amendment would appear to condone the use of biological weapons under certain circumstances, and since use would be possible only after breaking the BW Convention, the absolute character of the Convention prohibitions would be called into question. What seems less objectionable than an amendment is a solemn declaration of understanding by all parties that the use of microbial or other biological agents or toxins in any way that is not consistent with prophylactic, protective or other peaceful purposes, would be a violation of the Convention.

Verification of compliance

No specific measures are set forth in the BW Convention to verify compliance with the obligation not to develop, produce, stockpile or otherwise acquire or retain biological agents or toxins for "hostile purposes". Indeed, hostile intentions, like any other intentions, cannot be verified. As mentioned above, the parties are not obliged to declare biological agents or toxins used in non-prohibited activities. Nor are they obliged to declare all laboratories engaged in research and development of substances that could be used as agents of warfare. This is a serious lacuna, because advances in biotechnology have made it possible to produce large quantities of potent toxic substances by a small number of people, in a short period of time, and in facilities which are difficult to identify. Such substances may be stored in inconspicuous repositories and eventually "weaponized", that is, filled into missiles, bombs or spray systems. Consequently, a violator could relatively easily break out from the Convention. What is even more incongruous, States joining the Convention are not required to declare the possession or non-possession of the banned weapons. Nor are States, which may have declared such possession, obligated to prove that they have destroyed the weapons or diverted them to peaceful purposes. The opening-up by the United States of some of its biological facilities for public inspection and international visitors, following the destruction of its stocks, was a voluntary act.¹⁸

National technical means of verification cannot be relied upon to verify in other countries the non-development and non-production of

¹⁸ US Congressional Record-Senate, 9 March 1971.

biological agents and toxins for hostile purposes, and there are at present no international means to perform such tasks. Illegal possession of the banned weapons could be demonstrated indirectly through investigations which the UN Secretary-General is authorized to carry out in response to reports that may be brought to his attention on the possible use of chemical and biological or toxin weapons entailing a violation of the Geneva Protocol or of any other applicable rule of international treaty or customary law.¹⁹ However, such investigations, which may be initiated by UN member States (but not by individuals or non-governmental organizations), could also prove inconclusive, because the diseases allegedly caused by biological weapons might be similar to those occurring naturally, and because it might be difficult for the investigators to determine the identity of the aggressor.

Each party is obliged to take measures, in accordance with its constitutional processes, to prohibit and prevent the activities banned by the Convention from taking place within its territory and under its jurisdiction or control anywhere (Article IV). The term "measures" applies to legislative, administrative or regulatory measures, whereas the term "under its jurisdiction or control" (also used in Article II referred to above) extends the bans to non-self-governing territories administered by States parties, and to territories under military occupation. "Anywhere" implies that even transnational corporations operating in the territories of non-parties to the Convention are covered by the prohibitions if they remain under the jurisdiction or control of the parties. Not all parties, however, have taken the steps required to ensure domestic compliance with the Convention.²⁰ This is all the more regrettable in that biological agents appear to be becoming attractive, for terrorist purposes, to players other than States. According to reliable reports, the Aum Shinrikyo sect, which released nerve gas in a Tokyo subway train, had also been working on the development of biological weapons and in 1995, shortly before the arrest of its leader, was close to completing this programme.²¹

¹⁹ United Nations Security Council Resolution 620 (1988). Guidelines and procedures for United Nations investigations were developed by a group of experts and endorsed by the United Nations General Assembly Resolution 45/57C(1990).

²⁰ Even before the BW Convention entered into force, France — not a signatory — adopted a law (No. 72-467 of 9 June 1972) prohibiting biological and toxin weapons on its territory. The wording of its main provisions is almost identical to that of the Convention. Severe punishment of violators by fines and imprisonment is provided for, and elaborate procedures are intended to ensure that the prohibitions are respected. France acceded to the Convention only in 1984.

²¹ United States Senate Permanent Sub-Committee on Investigations, *Hearings on global proliferation of weapons of mass destruction: A case study on Aum Shinrikyo*, 31 October 1995.

On the international level, the parties have undertaken to consult one another and to cooperate in solving problems relating to the objective or the application of the provisions of the Convention. Such consultation and cooperation may also take place "through appropriate international procedures within the framework of the United Nations and in accordance with its Charter" (Article V). Since the Convention does not explain what "appropriate international procedures" amount to, the participants in the BW Review Conferences agreed that such procedures should include the right of any party to request that a "consultative meeting", open to all parties, be convened promptly at expert level.²²

The parties have the right to lodge with the UN Security Council complaints regarding breaches of the Convention. They have undertaken to cooperate in carrying out any investigation which the Security Council may initiate on the basis of the complaint received, and they are entitled to be informed of the results of such investigation. Each complaint must contain "all possible evidence" confirming its validity (Article VI). However, only a few States have the means to collect such evidence. Others may not be in a position to do so, and could not always count on obtaining relevant information from foreign sources, even from their allies. There is thus a possibility that, for political or other reasons (for example, unwillingness to disclose the nature or the source of the evidence), certain powers will deliberately overlook transgressions committed by some States to the detriment of others. A State which suspects a violation, but lacks reliable information and therefore does not possess sufficient evidence, may have its request for consideration rejected by the Security Council. Even if the Security Council agreed to discuss a charge which did not satisfy the above requirement, there would always be a danger that the case would not receive proper examination. For the Council is not entitled (or equipped) by the UN Charter to check compliance with arms control agreements; nor is it empowered to take action against violators of such agreements. Only when the Council finds that the situation created by the violation can lead to international friction may it recommend, under Chapter VI of the UN Charter, "appropriate procedures or methods of adjustment" to the State or States concerned. This may not always be the case.

In 1992, the President of the UN Security Council stated, on behalf of its members, that proliferation of weapons of mass destruction, which

²² First and Second Biological Weapons Convention Review Conferences, documents BWC/CONF.I/10 and BWC/CONF.II/13.

include biological weapons, would constitute a “threat to international peace and security”, and that appropriate action would be taken to prevent it.²³ That action could include the application of coercive measures under Chapter VII of the UN Charter. However, the statement of the President of the Security Council has no binding legal effect. Even if it were transformed into a formal decision of the Council to have such effect, it would not necessarily enable the Council to act in all pertinent instances. The power of veto possessed by the permanent members of the Council can always be used to protect violators of treaties, especially when the violator happens to be a great power. A suggestion, put forward during the BW negotiations, that the Security Council’s permanent members should waive their right of veto at least with regard to resolutions concerning investigations of complaints, was not accepted. This is why proposals have been repeatedly made that a representative body of States parties — rather than the United Nations — should deal with investigations of alleged breaches of the BW Convention. If, in 1982, the UN General Assembly requested the UN Secretary-General to investigate alleged violations of the ban on use of chemical and biological weapons (see above), it did so primarily because the ban, as embodied in the 1925 Geneva Protocol, is widely considered to form part of international customary law to be observed by all States, parties and non-parties to relevant treaties alike.²⁴

The circumstance that the fact-finding stage of the complaints procedure is not clearly separated from the stage of legal/political consideration and judgment is a serious shortcoming of the BW Convention. It makes it difficult to ascertain a violation. Moreover, a State under suspicion of having violated its obligations has no international impartial mechanism to turn to in order to free itself from that suspicion. Ill-considered allegations can therefore be made with impunity.

In the case of an established violation, parties would have to provide or support assistance, in accordance with the UN Charter, to a party which so requested, if the Security Council decided that this party had been exposed to danger as a result of the violation (Article VII). It appears from the negotiating history that assistance was meant primarily as action of

²³ United Nations Security Council document S/23500, 31 January 1992.

²⁴ See S. Sur, “La résolution A/37/98 D du 13 décembre 1982 et les procédures d’enquête en cas d’usage allégué d’armes chimiques et bactériologiques (biologiques)”, *Annuaire français de droit international (AFDI)*, 1984, pp. 93-109.

a medical or other humanitarian or relief nature. In the understanding of at least the United Kingdom and the United States, it would be for each party to decide whether it could or was prepared to supply the requested aid.²⁵ In other words, assistance would be optional, not obligatory: it could be refused without incurring the charge of non-compliance.

The Convention provided for a review conference of the parties to be convened five years after its entry into force (Article XII). Later, the parties decided to meet at least every five years; these Conferences review the operation of the Convention, taking into account the relevant scientific and technological developments.

Allegations of non-compliance

Several allegations of non-compliance with the BW Convention have been made since the Convention entered into force.²⁶ Those which received most attention were the "Sverdlovsk" and "Yellow Rain" cases.

The Sverdlovsk case

In March 1980, the United States accused the Soviet Union of maintaining an offensive biological weapons programme which included production, weaponization and stockpiling of biological warfare agents. The accusation was based on the suspected airborne release of anthrax spores from a Soviet biological facility, which caused an outbreak of anthrax in the city of Sverdlovsk in April and May 1979.²⁷ The Soviet Union confirmed that there had been an outbreak of anthrax in the Sverdlovsk region, but attributed this occurrence to the sale of anthrax-contaminated meat in violation of veterinary regulations.²⁸ It provided little additional information. The issue was the subject of bilateral US/Soviet consultations, and various groups of scientists met to evaluate the Soviet account of the incident,²⁹ but the US government

²⁵ Disarmament Conference documents CCD/PV. 542 and CCD/PV. 544.

²⁶ Descriptions of these allegations can be found in *SIPRI Yearbooks*. Allegations of use of biological means of warfare had also been made before the BW Convention entered into force.

²⁷ New York Times, 19 March 1980.

²⁸ First Biological Weapons Convention Review Conference document BWC/CONF.I/SR.12 para 29.

²⁹ For detailed descriptions of the case see M. Meselson, "The biological weapons convention and the Sverdlovsk anthrax outbreak of 1979", *Federation of American scientists public interest report*, Vol. 41(7), Washington D.C., September 1988; E. Harris, "Sverdlovsk and yellow rain: Two cases of Soviet noncompliance?", *International security*,

maintained its accusation.³⁰ In 1992, the Russian authorities admitted that a breach of the BW Convention had been committed. They undertook, under a decree issued by the President of the Russian Federation, to open secret military research centres to international inspection and convert them to civilian use.³¹

The "Yellow Rain" case

In 1981, the US government accused the Soviet Union of being involved in the production, transfer and use of trichothecene mycotoxins in Laos, Kampuchea and Afghanistan in violation of both the 1925 Geneva Protocol and the BW Convention.³² The allegation was categorically rejected by the Soviet Union. US charges were based on reports by alleged victims and eye-witnesses who stated that since the autumn of 1978 enemy aircraft had been spraying a toxic yellow material (hence the name of the case). Chemical analyses of samples of the yellow material and medical checks of the affected persons were conducted to substantiate the case. However, as the investigations proceeded, with the involvement of laboratories in different countries and a careful scrutiny of the eye-witnesses' reports, the reliability of the evidence was increasingly questioned.³³ Some authoritative scientists found that the yellow substance consisted to a large extent of excrements of wild honeybees, and extensive analytical efforts in several laboratories failed to confirm the initial positive reports of trichothecenes.³⁴

Vol. 11(4), spring 1987, pp. 45-47; Ch. C. Flowerree, "Possible implications of the anthrax outbreak in Sverdlovsk on future verification of the Biological Weapons Convention: a U.S. perspective"; S.J. Lundin (ed), *Views on possible verification measures for the Biological Weapons Convention*, SIPRI, Oxford University Press, Oxford, 1991; V. Issraelyan, "Possible implications of the anthrax outbreak in Sverdlovsk on future verification of the Biological Weapons Convention: a Soviet perspective", *ibid*.

³⁰ The White House, *Report to the Congress on Soviet noncompliance with arms control agreements*, Washington D.C., 23 February 1990.

³¹ *Chemical Weapons Convention Bulletin*, No.16, June 1992, pp.18-19.

³² The allegation was in public for the first time by Secretary of State Haig in September 1981 (US Department of State, press release, 13 September 1981). More details were given in: US Department of State, *Chemical warfare in Southeast Asia and Afghanistan*, Special Report No.98, Report to the Congress from Secretary of State Alexander M. Haig, Jr., March 22, 1982; and US Department of State, *Chemical warfare in Southeast Asia and Afghanistan: An update*, Special Report No.104, by Secretary of State George P. Shultz, November 11, 1982.

³³ A UN expert team, dispatched by the Secretary-General in 1981 and 1982, was not able to shed more light on the issue (UN documents A/36/613 Annex and A/37/259).

³⁴ For an analysis of the Yellow Rain case, disputing the allegations, see J. P. Robinson, J. Guillemin, M. Meselson, "Yellow rain in Southeast Asia: The story collapses", S. Wright (ed), *Preventing a biological arms race*, MIT Press, Cambridge Mass., 1990.

Assessment

As compared to other arms control agreements, the negotiations for the BW Convention — conducted separately from those on chemical weapons with which they had been associated for decades — encountered few obstacles and were concluded relatively quickly, in a common taboo on use. The reasons were as follows.

Biological weapons are unpredictable in their effects and of limited value in combat.³⁵ Since cheating under a BW Convention could not yield significant military advantages to the cheating party, a ban on biological weapons without verification of compliance was considered by the negotiators to be free of serious security risks. By contrast, chemical weapons are predictable, capable of producing immediate effects and, consequently, useful in combat. Banning their possession without elaborate and intrusive methods of verification was, therefore, deemed impossible. Most states which joined the BW Convention did so on condition that the complete prohibition of biological weapons would be recognized as a step towards a complete prohibition of chemical weapons (Preamble and Article XI).

The aim of the BW Convention was not so much to remove an immediate peril, as to eliminate the possibility that scientific and technological advances, modifying the conditions of production, storage or use of biological weapons, would make these weapons militarily attractive. Indeed, progress in biotechnology is making it increasingly possible to “improve” upon known biological agents. Normally harmless organisms which do not cause diseases can be modified so as to become highly toxic and produce diseases for which there is no known treatment. But the Convention is comprehensive enough to cover all relevant scientific and technological developments, including biological agents and toxins that could result from genetic engineering processes.

The disclosure by the UN Special Commission of an extensive biological weapons programme in Iraq,³⁶ as well as reports that certain other nations, too, have or are seeking to acquire a biological weapon capability,³⁷ indicate that the threat of biological warfare remains real. Since the

³⁵ They might, perhaps, be militarily more useful for area denial.

³⁶ United Nations Security Council document S/1995/864.

³⁷ Statement by the Director of the US Arms Control and Disarmament Agency to the BW Convention Review Conference, 26 November 1996.

BW Convention has no instruments to check compliance, there is a need for verification machinery to deter would-be violators. Negotiations for a verification protocol, or another legally binding document strengthening the Convention with measures of control, have been going on in an ad hoc group of States, open to all parties, since January 1995. So far, however, agreement has proved elusive. Until it is reached, parties to the Convention are expected to implement the confidence-building measures they have agreed at their Review Conferences. The most important among them are measures enhancing the transparency of activities involving biological agents and toxins. They include exchanges of information on facilities and research programmes relevant to the Convention, on vaccine production, and on significant and unusual outbreaks of diseases.

Eventually, to make possible a differentiation between treaty-prohibited and treaty-permitted activities, the objects of the prohibitions will have to be more clearly defined, and the criteria necessary to assess compliance will have to be unambiguously established. Moreover, apart from short-notice visits to declared sites, on-site inspections of undeclared sites will have to be accepted without reservation by all parties. It is, of course, understood that sensitive commercial proprietary information and national security information, not directly related to the BW Convention, must be reliably protected. A special organization will be needed to oversee the implementation of the parties' obligations.
